## Nuclear Systematics: III. The Source of Solar Luminosity

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The Sun emits about 3 x  $10^{43}$  <sup>1</sup>H per year in the solar wind (SW). Solar luminosity and the outflow of SW-protons come from the collapsed supernova core, a neutron star (NS), on which the Sun formed. The universal cradle of the nuclides indicates that the energy of each neutron in the Sun's central NS exceeds that of a free neutron by  $\approx 10\text{-}22$  MeV. Solar luminosity and SW-protons are generated by a series of reactions: a) escape of neutrons from the central NS, b) decay of free neutrons or their capture by heavier nuclides, c) fusion and upward migration of H<sup>+</sup> through material that accreted on the NS, and d) escape of H<sup>+</sup> in the SW.